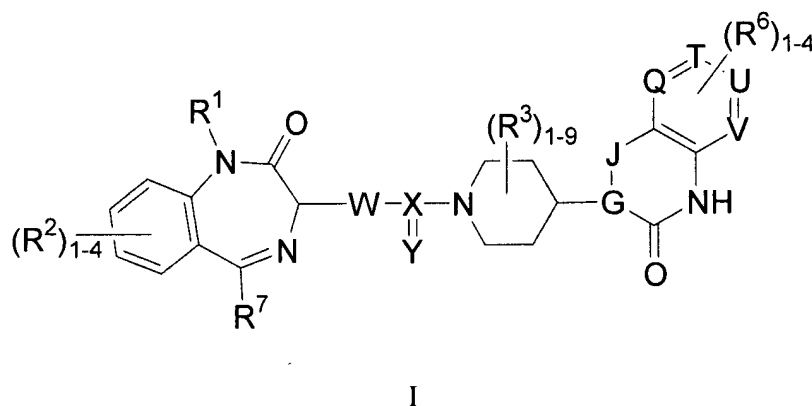


**Listing of the Claims:**

The listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. (Currently Amended) A ~~compounds~~ compound of formula I:



wherein:

$R^1$  is selected from:

- 1) H, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, and heterocycle, unsubstituted or substituted with one or more substituents independently selected from:
  - a) C<sub>1</sub>-C<sub>6</sub> alkyl,
  - b) C<sub>3</sub>-C<sub>6</sub> cycloalkyl,
  - c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
  - d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
  - e) heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
  - f) (F)<sub>p</sub>C<sub>1-3</sub> alkyl,
  - g) halogen,
  - h) OR<sup>4</sup>,
  - i) O(CH<sub>2</sub>)<sub>s</sub> OR<sup>4</sup>,
  - j) CO<sub>2</sub>R<sup>4</sup>,
  - k) (CO)NR<sup>10</sup>R<sup>11</sup>,

- l)  $\text{O}(\text{CO})\text{NR}^{10}\text{R}^{11}$ ,
  - m)  $\text{N}(\text{R}^4)(\text{CO})\text{NR}^{10}\text{R}^{11}$ ,
  - n)  $\text{N}(\text{R}^{10})(\text{CO})\text{R}^{11}$ ,
  - o)  $\text{N}(\text{R}^{10})(\text{CO})\text{OR}^{11}$ ,
  - p)  $\text{SO}_2\text{NR}^{10}\text{R}^{11}$ ,
  - q)  $\text{N}(\text{R}^{10})\text{SO}_2\text{R}^{11}$ ,
  - r)  $\text{S}(\text{O})_m\text{R}^{10}$ ,
  - s)  $\text{CN}$ ,
  - t)  $\text{NR}^{10}\text{R}^{11}$ ,
  - u)  $\text{N}(\text{R}^{10})(\text{CO})\text{NR}^4\text{R}^{11}$ , and
  - v)  $\text{O}(\text{CO})\text{R}^4$ ; and
- 2) aryl or heteroaryl, unsubstituted or substituted with one or more substituents independently selected from:
- a)  $\text{C}_{1-6}$  alkyl,
  - b)  $\text{C}_{3-6}$  cycloalkyl,
  - c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $\text{R}^4$ ,
  - d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $\text{R}^4$ ,
  - e) heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $\text{R}^4$ ,
  - f)  $(\text{F})_p\text{C}_{1-3}$  alkyl,
  - g) halogen,
  - h)  $\text{OR}^4$ ,
  - i)  $\text{O}(\text{CH}_2)_s\text{OR}^4$ ,
  - j)  $\text{CO}_2\text{R}^4$ ,
  - k)  $(\text{CO})\text{NR}^{10}\text{R}^{11}$ ,
  - l)  $\text{O}(\text{CO})\text{NR}^{10}\text{R}^{11}$ ,
  - m)  $\text{N}(\text{R}^4)(\text{CO})\text{NR}^{10}\text{R}^{11}$ ,
  - n)  $\text{N}(\text{R}^{10})(\text{CO})\text{R}^{11}$ ,
  - o)  $\text{N}(\text{R}^{10})(\text{CO})\text{OR}^{11}$ ,
  - p)  $\text{SO}_2\text{NR}^{10}\text{R}^{11}$ ,
  - q)  $\text{N}(\text{R}^{10})\text{SO}_2\text{R}^{11}$ ,
  - r)  $\text{S}(\text{O})_m\text{R}^{10}$ ,
  - s)  $\text{CN}$ ,

- t)  $\text{NR}^{10}\text{R}^{11}$ ,
- u)  $\text{N}(\text{R}^{10})(\text{CO})\text{NR}^4\text{R}^{11}$ , and
- v)  $\text{O}(\text{CO})\text{R}^4$ ; and

$\text{R}^2$  is independently selected from H and:

- 1)  $\text{C}_{1-6}$  alkyl,
- 2)  $\text{C}_{3-6}$  cycloalkyl,
- 3) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $\text{R}^4$ ,
- 4) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $\text{R}^4$ ,
- 5) heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $\text{R}^4$ ,
- 6)  $(\text{F})_p\text{C}_{1-3}$  alkyl,
- 7) halogen,
- 8)  $\text{OR}^4$ ,
- 9)  $\text{O}(\text{CH}_2)_s\text{OR}^4$ ,
- 10)  $\text{CO}_2\text{R}^4$ ,
- 11)  $(\text{CO})\text{NR}^{10}\text{R}^{11}$ ,
- 12)  $\text{O}(\text{CO})\text{NR}^{10}\text{R}^{11}$ ,
- 13)  $\text{N}(\text{R}^4)(\text{CO})\text{NR}^{10}\text{R}^{11}$ ,
- 14)  $\text{N}(\text{R}^{10})(\text{CO})\text{R}^{11}$ ,
- 15)  $\text{N}(\text{R}^{10})(\text{CO})\text{OR}^{11}$ ,
- 16)  $\text{SO}_2\text{NR}^{10}\text{R}^{11}$ ,
- 17)  $\text{N}(\text{R}^{10})\text{SO}_2\text{R}^{11}$ ,
- 18)  $\text{S}(\text{O})_m\text{R}^{10}$ ,
- 19)  $\text{CN}$ ,
- 20)  $\text{NR}^{10}\text{R}^{11}$ ,
- 21)  $\text{N}(\text{R}^{10})(\text{CO})\text{NR}^4\text{R}^{11}$ , and
- 22)  $\text{O}(\text{CO})\text{R}^4$ ;

$\text{R}^7$  is selected from:

- 1) H, C<sub>0</sub>-C<sub>6</sub> alkyl, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl, C<sub>3</sub>-6 cycloalkyl and heterocycle, unsubstituted or substituted with one or more substituents independently selected from:
- a) C<sub>1-6</sub> alkyl,
  - b) C<sub>3-6</sub> cycloalkyl,
  - c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
  - d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
  - e) heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
  - f) (F)<sub>p</sub>C<sub>1-3</sub> alkyl,
  - g) halogen,
  - h) OR<sup>4</sup>,
  - i) O(CH<sub>2</sub>)<sub>s</sub>OR<sup>4</sup>,
  - j) CO<sub>2</sub>R<sup>4</sup>,
  - k) (CO)NR<sup>10</sup>R<sup>11</sup>,
  - l) O(CO)NR<sup>10</sup>R<sup>11</sup>,
  - m) N(R<sup>4</sup>)(CO)NR<sup>10</sup>R<sup>11</sup>,
  - n) N(R<sup>10</sup>)(CO)R<sup>11</sup>,
  - o) N(R<sup>10</sup>)(CO)OR<sup>11</sup>,
  - p) SO<sub>2</sub>NR<sup>10</sup>R<sup>11</sup>,
  - q) N(R<sup>10</sup>) SO<sub>2</sub>R<sup>11</sup>,
  - r) S(O)<sub>m</sub>R<sup>10</sup>,
  - s) CN,
  - t) NR<sup>10</sup>R<sup>11</sup>,
  - u) N(R<sup>10</sup>)(CO)NR<sup>4</sup>R<sup>11</sup>,
  - v) O(CO)R<sup>4</sup>; and
- 2) aryl or heteroaryl, unsubstituted or substituted with one or more substituents independently selected from:
- a) C<sub>1-6</sub> alkyl,
  - b) C<sub>3-6</sub> cycloalkyl,
  - c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
  - d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,

- e) heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from  $R^4$ ,
- f)  $(F)_pC_{1-3}$  alkyl,
- g) halogen,
- h)  $OR^4$ ,
- i)  $O(CH_2)_sOR^4$ ,
- j)  $CO_2R^4$ ,
- k)  $(CO)NR^{10}R^{11}$ ,
- l)  $O(CO)NR^{10}R^{11}$ ,
- m)  $N(R^4)(CO)NR^{10}R^{11}$ ,
- n)  $N(R^{10})(CO)R^{11}$ ,
- o)  $N(R^{10})(CO)OR^{11}$ ,
- p)  $SO_2NR^{10}R^{11}$ ,
- q)  $N(R^{10})SO_2R^{11}$ ,
- r)  $S(O)_mR^{10}$ ,
- s) CN,
- t)  $NR^{10}R^{11}$ ,
- u)  $N(R^{10})(CO)NR^4R^{11}$ , and
- v)  $O(CO)R^4$ ;

$R^4$  is selected from: H,  $C_{1-6}$  alkyl,  $(F)_pC_{1-6}$  alkyl,  $C_{3-6}$  cycloalkyl, aryl, heteroaryl and benzyl, unsubstituted or substituted with halogen, hydroxy or  $C_{1-6}$  alkoxy;

$R^5$  is independently selected from H, substituted or unsubstituted  $C_{1-6}$  alkyl,  $C_{3-6}$  cycloalkyl, aryl, heteroaryl,  $OR^4$ ,  $N(R^4)_2$ ,  $CO_2R^4$  and  $(F)_pC_{1-6}$  alkyl;

W is O,  $NR^4$  or  $C(R^4)_2$ ;

X is C or S;

Y is O,  $(R^4)_2$ , NCN,  $NSO_2CH_3$  or  $NCONH_2$ , or Y is  $O_2$  when X is S;

$R^3$  is independently selected from H, substituted or unsubstituted  $C_{1-3}$  alkyl, CN and  $CO_2R^4$ ;

$R^6$  is independently selected from H and:

- a) C<sub>1-6</sub> alkyl,
- b) C<sub>3-6</sub> cycloalkyl,
- c) aryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
- d) heteroaryl, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
- e) heterocycle, unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>,
- f) (F)<sub>p</sub>C<sub>1-3</sub> alkyl,
- g) halogen,
- h) OR<sup>4</sup>,
- i) O(CH<sub>2</sub>)<sub>5</sub>OR<sup>4</sup>,
- j) CO<sub>2</sub>R<sup>4</sup>,
- k) (CO)NR<sup>10</sup>R<sup>11</sup>,
- l) O(CO)NR<sup>10</sup>R<sup>11</sup>,
- m) N(R<sup>4</sup>)(CO)NR<sup>10</sup>R<sup>11</sup>,
- n) N(R<sup>10</sup>)(CO)R<sup>11</sup>,
- o) N(R<sup>10</sup>)(CO)OR<sup>11</sup>,
- p) SO<sub>2</sub>NR<sup>10</sup>R<sup>11</sup>,
- q) N(R<sup>10</sup>) SO<sub>2</sub>R<sup>11</sup>,
- r) S(O)<sub>m</sub>R<sup>10</sup>,
- s) CN,
- t) NR<sup>10</sup>R<sup>11</sup>,
- u) N(R<sup>10</sup>)(CO)NR<sup>4</sup>R<sup>11</sup>, and
- v) O(CO)R<sup>4</sup>;

R<sup>10</sup> and R<sup>11</sup> are independently selected from: H, C<sub>1-6</sub> alkyl, (F)<sub>p</sub>C<sub>1-6</sub> alkyl, C<sub>3-6</sub> cycloalkyl, aryl, heteroaryl and benzyl, unsubstituted or substituted with halogen, hydroxy or C<sub>1-6</sub> alkoxy, where R<sup>10</sup> and R<sup>11</sup> may be joined together to form a ring selected from: azetidiny, pyrrolidinyl, piperidinyl, piperazinyl and morpholinyl, which is unsubstituted or substituted with 1-5 substituents where the substituents are independently selected from R<sup>4</sup>;

G-J is selected from: N, N-C(R<sup>5</sup>)<sub>2</sub>, C=C(R<sup>5</sup>), C=N; C(R<sup>5</sup>), C(R<sup>5</sup>)-C(R<sup>5</sup>)<sub>2</sub>, C(R<sup>5</sup>)-C(R<sup>5</sup>)<sub>2</sub>-C(R<sup>5</sup>)<sub>2</sub>, C=C(R<sup>5</sup>)-C(R<sup>5</sup>)<sub>2</sub>, C(R<sup>5</sup>)-C(R<sup>5</sup>)=C(R<sup>5</sup>), C(R<sup>5</sup>)-C(R<sup>5</sup>)<sub>2</sub>-N(R<sup>5</sup>), C=C(R<sup>5</sup>)-N(R<sup>5</sup>), C(R<sup>5</sup>)-C(R<sup>5</sup>)=N, C(R<sup>5</sup>)-N(R<sup>5</sup>)-C(R<sup>5</sup>)<sub>2</sub>, C=N-C(R<sup>5</sup>)<sub>2</sub>, C(R<sup>5</sup>)-N=C(R<sup>5</sup>), C(R<sup>5</sup>)-N(R<sup>5</sup>)-N(R<sup>5</sup>), C=N-N(R<sup>5</sup>), N-C(R<sup>5</sup>)<sub>2</sub>-C(R<sup>5</sup>)<sub>2</sub>, N-C(R<sup>5</sup>)=C(R<sup>5</sup>), N-C(R<sup>5</sup>)<sub>2</sub>-N(R<sup>5</sup>), N-C(R<sup>5</sup>)=N, N-N(R<sup>5</sup>)-C(R<sup>5</sup>)<sub>2</sub> and N-N=C(R<sup>5</sup>);

Q, T, U and V are each independently a carbon atom or a nitrogen atom wherein at least one but no more than three of Q, T, U and V are nitrogen atoms, and wherein when any of Q, T, U, or V is a carbon atom it is unsubstituted or substituted where the substituents are independently selected from  $R^6$ ;

p is 0 to  $2q+1$ , for a substituent with q carbons;

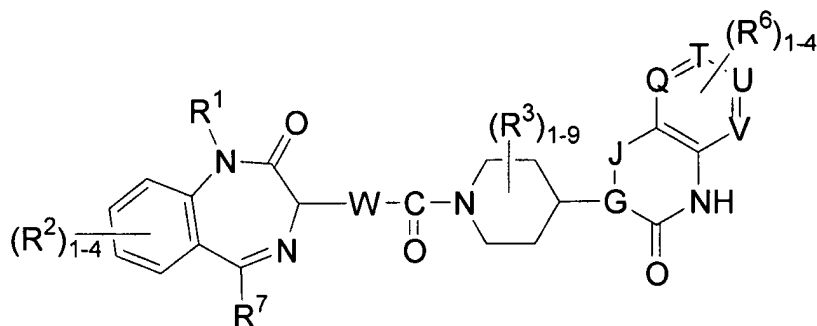
m is 0, 1 or 2;

n is 0 or 1;

s is 1, 2 or 3;

and pharmaceutically acceptable salts and individual diastereomers thereof.

2. The compound of claim 1 of the formula Ia:



and pharmaceutically acceptable salts and individual diastereomers thereof.

3. The compound of claim 2, wherein R<sup>7</sup> is phenyl, unsubstituted or substituted with one or substituents independently selected from:

- a) C<sub>1-6</sub> alkyl,
- b) OH,
- c) OR<sup>5</sup>,
- d) halogen,
- e) CO<sub>2</sub>R<sup>4</sup>,
- f) S(O)<sub>m</sub>R<sup>5</sup>,
- g) N(R<sup>4</sup>)<sub>2</sub>, and
- j) CN,

and pharmaceutically acceptable salts and individual diastereomers thereof.

4. The compound of claim 2, wherein R<sup>7</sup> is heteroaryl, unsubstituted or substituted with one or substituents independently selected from:

- a) C<sub>1-6</sub> alkyl,
- b) OH,
- c) OR<sup>5</sup>,
- d) halogen,
- e) CO<sub>2</sub>R<sup>4</sup>,



- f)  $\text{S(O)}_m\text{R}^5$ ,
- g)  $\text{N(R}^4)_2$ , and
- j)  $\text{CN}$ ,

and pharmaceutically acceptable salts and individual diastereomers thereof.

5. The compound of claim 2, wherein  $\text{R}^7$  is selected from H and  $\text{C}_1$ - $\text{C}_6$  alkyl,  $\text{C}_1$ - $\text{C}_6$  alkenyl,  $\text{C}_1$ - $\text{C}_6$  alkynyl,  $\text{C}_3$ - $\text{C}_6$  cycloalkyl, unsubstituted or substituted with one or substituents independently selected from:

- a)  $\text{C}_1$ -6 alkyl,
- b)  $\text{C}_1$ -6 alkoxy,
- c) fluorine,
- d)  $\text{HO}$ ,
- e)  $\text{OR}^5$ ,
- f)  $\text{CO}_2\text{R}^4$ ,
- g)  $\text{CON(R}^4)_2$ ,
- h)  $\text{S(O)}_m\text{R}^5$ , and
- i)  $\text{N(R}^4)_2$ ; and

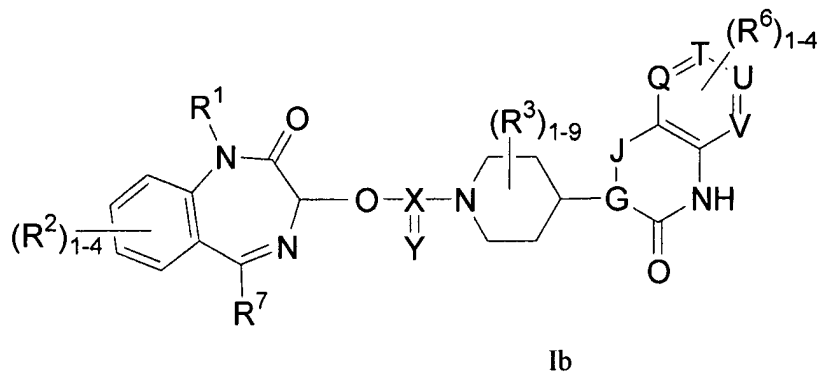
and pharmaceutically acceptable salts and individual diastereomers thereof.

6. The compound of claim 2, wherein  $\text{R}^7$  is heterocycle, unsubstituted or substituted with one or substituents independently selected from:

- a)  $\text{C}_1$ -6 alkyl,
- b)  $\text{C}_1$ -6 alkoxy,
- c) fluorine,
- d)  $\text{HO}$ ,
- e)  $\text{OR}^5$ ,
- f)  $\text{CO}_2\text{R}^4$ ,
- g)  $\text{CON(R}^4)_2$ ,
- h)  $\text{S(O)}_m\text{R}^5$ , and
- i)  $\text{N(R}^4)_2$ ; and

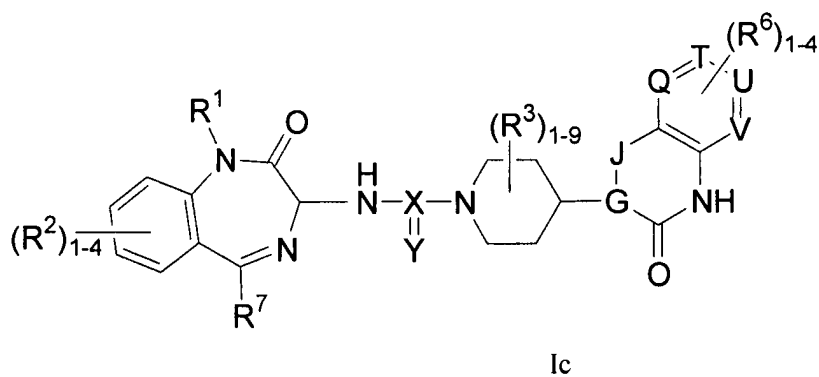
and pharmaceutically acceptable salts and individual diastereomers thereof.

7. The compound of claim 1 of the formula Ib:

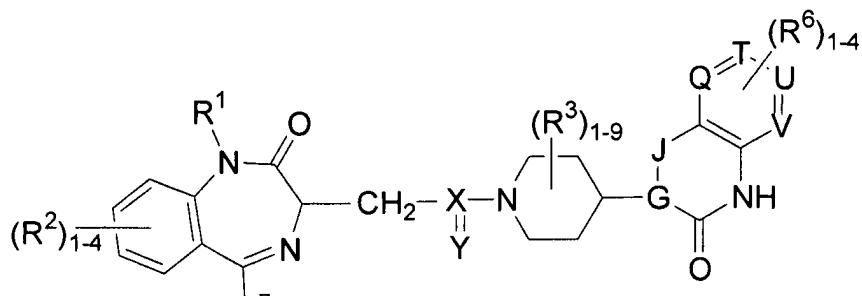


and pharmaceutically acceptable salts and individual diastereomers thereof.

8. The compound of claim 1 of the formula Ic:



and pharmaceutically acceptable salts and individual diastereomers thereof.

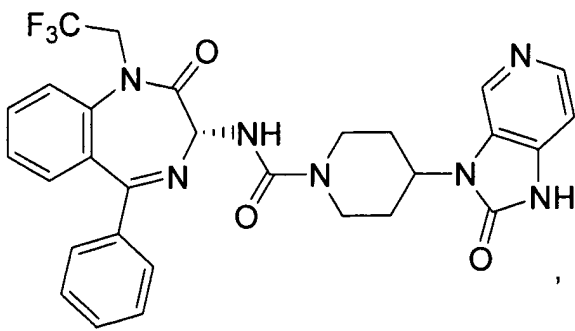
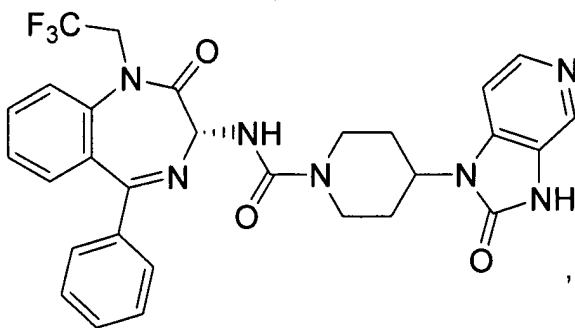
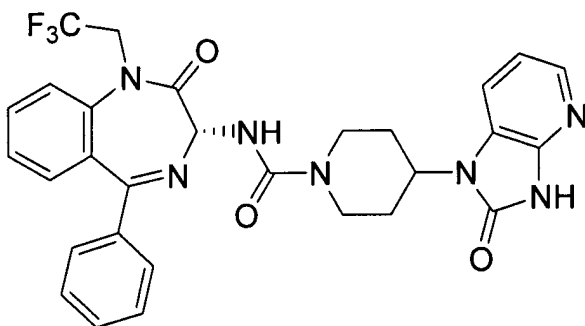


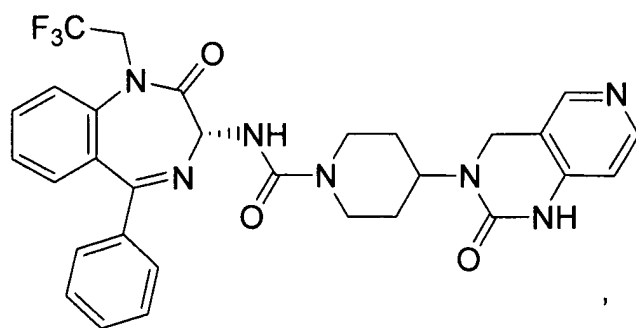
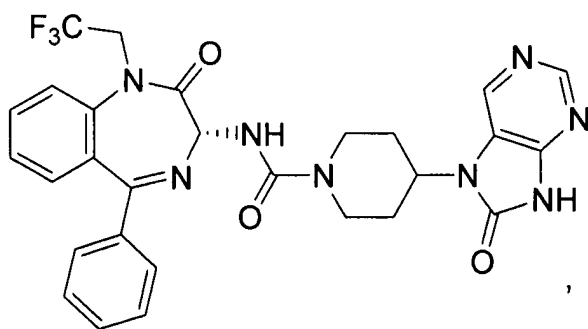
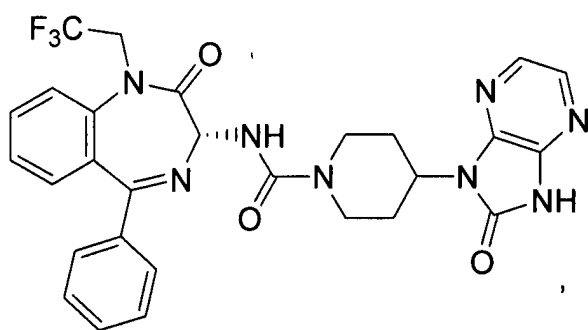
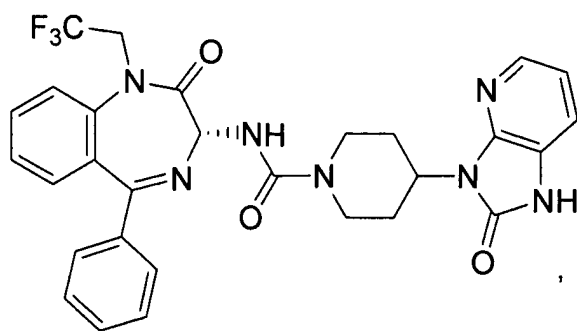
9. The compound of claim 1 of the formula Id:

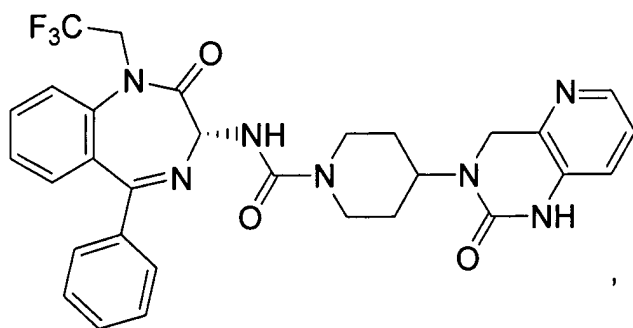
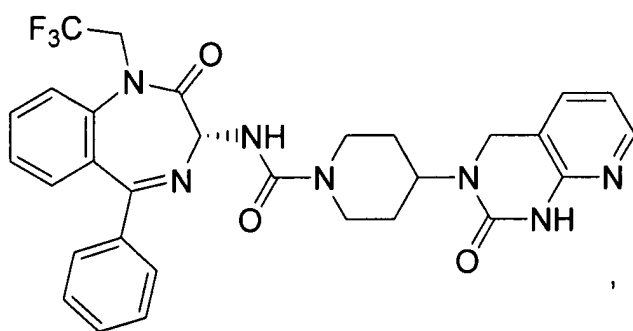
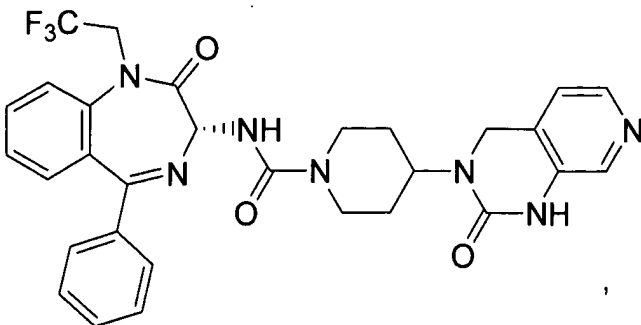
Id

and pharmaceutically acceptable salts and individual diastereomers thereof.

10. A compound selected from:







and pharmaceutically acceptable salts and individual diastereomers thereof.

12. A method for antagonism of CGRP receptor activity in a mammal which comprises the administration of an effective amount of the compound of Claim 1.

13. A method for treating, controlling, ameliorating or reducing the risk of headache, migraine or cluster headache in a mammalian patient in need of such which comprises administering to the patient a therapeutically effective amount of the compound of Claim 1.

14 -57. (Canceled)